



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,705	05/18/2006	Joseph Kennedy	089-498-0482.US	2929
39905	7590	06/16/2009	EXAMINER	
ROETZEL AND ANDRESS			ZEMEL, IRINA SOPTA	
222 SOUTH MAIN STREET			ART UNIT	PAPER NUMBER
AKRON, OH 44308			1796	
MAIL DATE		DELIVERY MODE		
06/16/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,705	<b>Applicant(s)</b> KENNEDY ET AL.
	<b>Examiner</b> Irina S. Zemel	<b>Art Unit</b> 1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 12 March 2009.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-19 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION*****Claim Objections***

The numbering of claims is not in accordance with the rules as the claim set contains two claims numbered "16".

Misnumbered claims 16-18 have been renumbered 17-19.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 13 claim a polycycloolefin block defined by the four recited formulae. In each of the formula m,n,p or q can be 1. Such "blocks" do not represent a polymeric or even an oligomeric block, and simply represent a single monomer unit, and naming such blocks "polycycloolefin" is repugnant to the accepted terminology.

Renumbered Claims 17-19 recite a product obtained via a process of claim 11, however, claim 11 is directed to a product, not a process.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1796

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7, 9-12, 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0949 282 to Kaneka Corporation, (hereinafter "Kaneka '282").

Kaneka '282 discloses a block copolymers comprising and aromatic core, a polyisobutylene block and another block obtained by cationic polymerization of isobutylene from the functionalized core, with subsequent polymerization of the second block. See all illustrative examples. The di-functional aromatic initiator (bis(1 -chloro- 1-methylethyl)benzene or [C6H4(C(CH3)2Cl)2] is disclosed as the preferred initiator which results in two arm polymer. In process disclosed in illustrative examples fully corresponds to the claimed process, with the exception that the second block is illustrated in examples as a polystyrene block. However, the reference further expressly discloses suitability of norbornene [0016] or dicyclopentadiene or ethyldenenorbornene [0018] as suitable cationically polymerizable monomers for forming the other (non-isobutylene) polymer block. The copolymer I inherently elastomeric as containing substantial amount of polymerized isobutylene, and can be used adhesive or coating material.

The invention as claimed, thus is fully within the purview of the cited reference, and clearly discloses each and every claimed element thus anticipating the claimed invention..

Claims 1, 7, 9-12, 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,804,644 to Kennedy et al., (hereinafter "Kennedy '664").

Kennedy discloses a star block copolymer obtained via cationic polymerization and comprising the polyisoprene block and another block incompatible with polyisoprene. The block copolymer further comprises a n aromatic core based on calizarene. The process of obtaining the block copolymer fully corresponds to the claimed process, with the exception that the second block is illustrated in examples as a polystyrene block. See illustrative examples 9-11. However, in the disclosure the reference also expressly discloses norbornene as one of seven expressly disclosed suitable cationically polymerizable monomers for forming the second block incompatible with the first polyisobutylene block. See, specifically, column 9, lines 10-31, thus making polymer containing polyisobutylene and norbornene blocks clearly envisaged from the disclosure of the reference. The resulting polymers are inherently elastomeric polymers, and can be used as adhesive or coating material.

The invention as claimed is, therefore, fully within the purview of the cited reference, and is clearly envisaged from it.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

Art Unit: 1796

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6,8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneka '282.

The disclosure of Kaneka is discussed above. While Kaneka expressly exemplifies two arm polymer having PIB-A structure of arms, the reference further expressly discloses tri-functional aromatic initiators, such as 1,3,5-tris(1-chloro-1-methylethyl)benzene [1,3,5-(C1C(CH3)2)3C6H3], and others [0026], which, when chosen from the process of invention inherently result in the tri-arm structures. In addition, the reference further expressly discloses that the arms can be di-block or tri-block structure (exemplifying such structure as styrene-PIB-styrene) as disclosed in [0032], and therefore, making tri-block structure A-PIB-A, with A selected from any of the expressly disclosed suitable non-isobutylene monomers listed in [0015-21], including norbornene, dicyclopentadiene or ethylenenorbornene clearly obvious.

Therefore, choosing a trifunctional initiator or tri-block structure and/or specific non-isobutylene monomers from the expressly disclosed elements would have been clearly obvious with reasonable expectation of success.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The

Art Unit: 1796

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/  
Primary Examiner, Art Unit 1796

Irina S. Zemel  
Primary Examiner  
Art Unit 1796

ISZ